Serial No. 09/893,788   2
Docket No. YOR920010316US1
YOR.291

REMARKS

Claims 1-23 and 32-34 are all the claims presently pending in the application.

Entry of this Amendment is proper because it does <u>not</u> raise any new issues requiring further search by the Examiner, narrows the issues on appeal, and is believed to place the present application in condition for immediate allowance.

Applicant gratefully acknowledges that **claims 8-10 and 12-14** would be <u>**allowable**</u> if rewritten in independent form. However, Applicant respectfully submits that all of the claims are allowable, for the reasons set forth below.

No claims have been amended.

Claims 1-7, 11, 15, 16, 23, and 32-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Perrizo (U.S. Publication No. 2003/0009467A1) in view of Ridgley (U.S. Patent No. 6,583,800).

Claims 17-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Perrizo in view of Ridgley, and further in view of Lipson, et al. (U.S. Patent No. 6,463,426).

These rejections are respectfully traversed in the following discussion.

I.   THE CLAIMED INVENTION

In contrast with conventional navigation techniques, the spatial navigation technique according to the claimed invention does not rely exclusively on the traversal of links in order to retrieve documents from the World Wide Web. That is, the novel and unobvious method according to the claimed invention allows the user to move from one page to another without traversing a link (e.g., without opening up a document by clicking with a browser or the like) (e.g., see specification at page 13, lines 15-20).

Serial No. 09/893,788   3
Docket No. YOR920010316US1
YOR.291

More particularly, in the spatial navigation method according to the claimed invention, the data blocks (Web pages, pictures, etc.) are <u>indexed</u> such that each data block resides in a specific point <u>in a N-dimensional coordinate system</u>. The placement of the data blocks in the <u>N-dimensional coordinate system</u> is performed such that data blocks which are relatively "close" to each other are related to the same subjects (e.g., see specification at page 14, lines 1-5).

Thus, the mapping of the data blocks into N-dimensional state enables a unique and unobvious Web navigation method based on space coordinates (e.g., see specification at page 15, lines 4-5).

For example, in an illustrative, non-limiting aspect of the invention, as defined for example by independent claim 1, a computer implemented method of navigating data blocks includes opening a first data block of a plurality of data blocks of interest, <u>the plurality of data blocks being spatially indexed in N dimensions</u>, viewing a <u>closeness relationship</u> between the first data block opened and a second plurality of data blocks <u>based on their content</u>, and <u>accessing a second data block of the second plurality of data blocks which is viewed to be closest to the first data block</u>.

II.   THE PRIOR ART REJECTIONS

A.   Claims 1-7, 11, 15, 16, and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Perrizo in view of Ridgley. Applicant respectfully disagrees with the Examiner's position, and therefore, traverses this rejection.

For the Examiner's convenience, the traversal arguments set forth in the Amendment under 37 C.F.R. § 1.111 filed on June 27, 2005 are incorporated herein by reference in their entirety.

Serial No. 09/893,788   4
Docket No. YOR920010316US1
YOR.291

In the "Response to Arguments" section of the present Office Action, the Examiner states

that, using the broadest reasonable interpretation of the claims, Perrizo discloses a K-nearest

neighbor (KNN) classification method, wherein the distance between KNN is measured using

the Euclidean and Minkowski metrics (e.g., see Perrizo at page 18, paragraph [0029]).

The Examiner further alleges that Ridgley discloses (see Ridgley at column 6, lines 20-

43, and Figures 1, 10A, and 10B) a schematic grid layout of a user interface, wherein the Square

arrays (i.e., n x n arrays, where "n" is a positive integer) are advantageous for a user information

interface because of the symmetry of spatial relationships. Rectangular arrays (i.e., m x n arrays,

where "m" and "n" are positive integers and "m" is not equal to "n") are also usable for the

CONTENT area.

The Examiner states that the Examiner reads the above in the broadest reasonable

interpretation to the claim limitation, wherein a relationship of a Euclidean distance function

between points and in an N-dimensional space would have been an obvious variant of KNN is

measured using the Euclidean and Minkowski metrics and Rectangular arrays (i.e., m x n arrays,

where "m" and "n" are positive integers and "m" is not equal to "n").

The Examiner alleges that it would have been obvious to modify Perrizo, which allegedly

discloses a system and method for organizing data in an N dimensional array, to include means

for displaying information according to a location in an N-dimensional space of Ridgley.

The Examiner further alleges that the motivation would be to provide a user interface for

finding collecting a vast quantity of information through a user interface, wherein the Square

arrays (i.e., n x n arrays, where "n" is a positive integer) are advantageous for a user information

interface because of the symmetry of spatial relationships, as allegedly taught by Ridgley at

column 6, lines 20-43).

Serial No. 09/893,788   5
Docket No. YOR920010316US1
YOR.291

Applicant respectfully disagrees with the Examiner's position, and therefore, traverses

this rejection.

First, Applicant respectfully reiterates that Perrizo and Ridgley are directed to

nonanalogous subject matter to the claimed invention. That is, Perrizo and Ridgley are

completely unrelated to each other, or for that matter, the claimed invention.

Moreover, Applicant reiterates that the claimed invention clearly differs from Perrizo at

least because the Perrizo application is only applicable to data in binary representation.

Particularly, Applicant reiterates that the terminology in Perrizo "n-dimensional array"

clearly is not comparable to the terminology "*n-dimensional space*" of the present invention

(e.g., "*spatially indexed in N dimensions*" as recited in claim 1).

Applicant submits that the Examiner's Response to Arguments does not address this

distinction (as argued by Applicant) and appears to treat an "n-dimensional space" as being

synonymous with (or an obvious variation of) an "n-dimensional array".

Applicant reiterates, however, that a "space" is defined as a coordinate plan defined by

one or more orthogonal axis. On the other hand, an "n-dimensional array" is merely an array

with N elements.

Applicant again notes that an "n-dimensional array" can be used to represent a coordinate

in "n-dimensional space". However, in order to make such a representation, it would be

necessary to state the mathematical rules which dictate the semantics of each element in the

array. The semantics in Perrizo are limited to radix-2 (binary) array elements and the semantics

which define the addressable "space" are also derived from binary constructs (K-nearest

neighbor (KNN)) and so forth.

Thus, the "space" semantics of Perrizo are limited to binary (radix-2) array elements.

Serial No. 09/893,788   6
Docket No. YOR920010316US1
YOR.291

With respect to the visual representation of data (e.g., "*viewing...*" as claimed in claim 1),

as allegedly disclosed by Ridgley, Applicant respectfully reiterates that the graphical interface

used in Ridgley is not germane to a "<u>spatial</u>" coordinate system.

In particular, Applicant reiterates that the Ridgley interface does <u>not</u> make any reference

to a distance function. Also, Ridgley does <u>not</u> display objects in a "coordinate space". Instead,

Ridgley merely uses a 2-dimensional <u>grid</u>.

Indeed, the Examiner acknowledges that Ridgley discloses (see Ridgley at column 6,

lines 20-43, and Figures 1, 10A, and 10B) a schematic <u>grid layout</u> of a user interface, wherein

the *Square arrays* (i.e., n x n arrays, where "n" is a positive integer) are advantageous for a user

information interface because of the symmetry of spatial relationships. *Rectangular arrays* (i.e.,

m x n arrays, where "m" and "n" are positive integers and "m" is not equal to "n") are also

usable for the CONTENT area.

However, the Ridgley interface is <u>not</u> capable of "spatial navigation". Indeed, the

Ridgley interface does <u>not</u> display data objects in an <u>N-dimensional system</u> and does <u>not</u> offer

the capability to select information <u>in view of its localization in N-dimensional space</u>.

In comparison (and in stark contrast to Perrizo or Ridgley), in the claimed invention, the

array elements are <u>not</u> limited to be of <u>binary</u> nature. Instead, in the claimed invention, the array

elements can be of any type which conforms to a proper Euclidean space. Also, the semantics

used in the claimed invention are <u>not</u> binary, but instead, are derived from Euclidean geometry.

The claimed invention relates to a unique and unobvious method of indexing blocks of

information into <u>a Euclidean coordinate of N-dimensions</u>. In the claimed invention, the

dimension of the index is independent of the dimension of the data.

Serial No. 09/893,788   7
Docket No. YOR920010316US1
YOR.291

Therefore, Applicant respectfully reiterates that it clearly would <u>not</u> have been obvious to combine Perrizo and Ridgley to arrive at the claimed invention because Perrizo clearly does <u>not</u> disclose or suggest each organization of data by indexing data into an <u>N-dimensional space</u>, and further, because the Ridgley interface is <u>not</u> capable of <u>spatial navigation.</u>

Turning to the language of the claims, claims 1-7, 11, 15-16, and 23 clearly would <u>not</u> have been obvious over *Perrizo and Ridgley, either individually or in combination.* Moreover, *even assuming arguendo* that it would have been obvious to combine Perrizo and Ridgley to arrive at the claimed invention, Applicant reiterates that the resulting combination of Perrizo and Ridgley would <u>not</u> disclose or suggest all of the features of the claimed invention.

Applicant respectfully notes that the Examiner has <u>not</u> responded to or answered the substance of <u>each</u> of the traversal positions set forth below.

As the Examiner knows, where Applicant traverses any rejections, the Examiner should, if he repeats the rejection, take note of Applicant's argument and answer the substance of it (see M.P.E.P. § 707.07(f)).

Applicant respectfully reiterates the traversal positions below and request that the Examiner properly respond to Applicant's traversal positions with respect to each of the claims below.

Independent Claim 1

For example, with respect to independent claim 1, the cited sections [0006] and [0007] of Perrizo do <u>not</u> disclose or suggest "*blocks spatially indexed in N dimensions*", as alleged by the Examiner.

Serial No. 09/893,788   8
Docket No. YOR920010316US1
YOR.291

An index is not data itself. Instead, an index is a pointer to data. In Perrizo, the binary

representation of the data itself is used as a coordinate. Thus, Perrizo clearly does not use an

index, as claimed.

Furthermore, an n-dimensional array is not comparable to a coordinate in N-dimensional

space, as mentioned above. In contrast in the Perrizo method, no index is used, and the data

itself must be in binary representation of size N.

With respect to the claimed "accessing a second data block ... viewed as closest to first

data block", such clearly is not disclosed or suggested by Perrizo at paragraphs [0226], [0222],

[0225], and/or [0229].

Indeed, none of the references cited even mentions accessing data.

Instead, the Perrizo reference, for example, simply describes a method to estimate a

function between two binary elements, but does not make any reference to the fact that a

particular data block is accessed and that the subsequent estimation is done as a consequence of a

data access operation. Thus, there is no mention in the cited portions of Perrizo to a data access

operation.

In comparison, the claimed invention clearly describes a data access operation (e.g.,

visiting a data link; see also specification at page 18, lines 7-15).

Furthermore, the distance method in the claimed invention is not limited to binary data,

as mentioned above.

With respect to the claimed "closeness relationship between ... data blocks", the Perrizo

method clearly does not use an indirect index, and therefore, is limited to binary data, which

limits the applicability of the method. Also, the Perrizo method clearly does not disclose or

suggest computing distances in N-dimensional space, as mentioned above.

Serial No. 09/893,788   9
Docket No. YOR920010316US1
YOR.291

With respect to *"viewing ... of a closeness relationship"*, the cited portion of Ridgley (i.e.,

Ridgley at column 2, lines 30-50) clearly does <u>not</u> disclose or suggest <u>displaying information</u>

<u>according to the location in an N-dimensional space</u>. Indeed, the Ridgley graphical interface is

<u>not</u> based in the notion of a *"space"*, which is defined by a set of orthogonal axis <u>and</u> a

coordinate system.

Thus, Applicant respectfully submits that it clearly would <u>not</u> have been obvious to

modify Perrizo in view of Ridgley, as alleged by the Examiner, because Ridgley is <u>not</u> designed

for (or directed to) a coordinate space system.

<u>Dependent claims 2-7, 11, 15, 16, 23, and 32-34</u>

Applicant reiterates that dependent claims 2-7, 11, 15, 16, 23, and 32-34 also are

patentable over Perrizo and Ridgley, either individually or in combination, by virtue of their

dependency from claim 1, as well as for the additional features recited therein.

With respect to dependent claim 2, Applicant reiterates that the term "distance" in Perrizo

does <u>not</u> refer to the distance function <u>in Euclidean space</u>. Thus, Perrizo does <u>not</u> disclose or

suggest *"based on a calculation of a distance function"*, as claimed.

Also, Ridgely does <u>not</u> disclose or suggest *"without traversing a hypertext link"*, etc., as

recited in claim 2. Indeed, the relied upon portions of Ridgley clearly do <u>not</u> even mention

"links".

With respect to dependent claim 3, Applicant reiterates that there is <u>no</u> disclosure (or

suggestion) of a <u>spatial coordinate system</u> in Ridgley. Thus, the alleged combination of Perrizo

and Ridgley clearly would <u>not</u> allow the user to *"traverse data blocks horizontally"*, as recited in

claim 3.

Serial No. 09/893,788   10
Docket No. YOR920010316US1
YOR.291

Furthermore, there is <u>no</u> disclosure or concept of <u>spatial distance</u> in Ridgley. The term

"desire" clearly is <u>not</u> comparable to <u>a Euclidean distance in a coordinate system</u>. Thus, it would

<u>not</u> have been obvious to adapt Ridgely to a spatial coordinate system.

Therefore, it clearly would <u>not</u> have been obvious to combine Perrizo and Ridgley to

arrive at the claimed invention recited in claim 3.

With respect to dependent claim 4, which recites, *inter alia*, that "*N is a number of words*

or subjects in a selected corpus", Applicant reiterates that paragraph [0233] of Perrizo clearly

does <u>not</u> disclose or suggest using N words to constitute <u>a space coordinate system</u>. The

"distance" relationship referred to in Perrizo clearly is <u>not</u> comparable to the "distance" <u>in a</u>

<u>coordinate system</u>, according to the claimed invention. Instead, the cited portion of Perrizo

merely refers to a method of partitioning data into clusters, which is <u>completely unrelated</u> to the

subject matter of the claimed invention.

On the other hand, dependent claim 5 recites, *inter alia*, a step of "*inputting, by a user... a*

collection of data blocks...selectively containing data, metadata and links..."

In comparison, in the cited references, the input of the user merely is a simple text string

"restaurants", which clearly is <u>not</u> comparable to a collection of data blocks, containing data,

metadata, and links, as claimed in claim 5.

With respect to dependent claim 6, Applicant reiterates that the portions of the references

relied upon by the Examiner clearly do <u>not</u> disclose or suggest "search *criteria in a spatial*

indexing process", as claimed.

Thus, it would <u>not</u> have been obvious to modify Ridgley to take as input "*a search depth*

defining how many links..." as recited in claim 6. Clearly, the alleged combination/modification

Serial No. 09/893,788   11
Docket No. YOR920010316US1
YOR.291

of Perrizo and Ridgley does <u>not</u> make any sense (and is <u>unreasonable</u>) because Perrizo also does

<u>not</u> make any mention to hyperlinks.

With respect to dependent claim 7, which recites, *inter alia*, *"creating ... an index*

record", etc., Applicant reiterates that neither Perrizo nor Ridgley describes the concept of

creating and using an index, as mentioned above, since Perrizo (which is relied upon for the

reaching of an index), in fact, does <u>not</u> use an index.

With respect to dependent claim 11, which recites, *inter alia*, *"calculating and displaying*

a proximity list for a data block", etc., Applicant reiterates that neither Perrizo nor Ridgley

describes the concept of *"calculating and displaying a proximity list for a data block"* for

somewhat similar reasons as those set forth above with respect to claim 2.

With respect to dependent claim 15, which recites, *inter alia*, *"positioning, by the user, a*

search focus and directing coordinates of a search", Applicant reiterates that Ridgley clearly

does <u>not</u> disclose or suggest a <u>spatial system</u>, and therefore, clearly is <u>not</u> capable of directing

coordinates. Indeed, paragraph [0233] of Ridgley does <u>not</u> describe a <u>spatial system</u>, but rather,

Ridgley describes a system for grouping data into clusters.

With respect to dependent claim 23, which recites, *inter alia*, *"selectively providing*

documents with or without any inter-document links", Applicant reiterates that the cited

references clearly do <u>not</u> disclose, suggest, or even address the concept of hyperlinks.

With respect to claim 32, which recites, *inter alia*, that the viewing includes *"displaying*

information according to a location in an N-dimensional space", Applicant submits that the cited

references clearly do <u>not</u> disclose, suggest, or even address the concept of an N-dimensional

<u>space</u>, as defined by the claims and disclosed in the present application.

Serial No. 09/893,788   12
Docket No. YOR920010316US1
YOR.291

Again, as argued above, the claimed invention <u>clearly differs</u> from Perrizo at least

because the Perrizo application is only applicable to data in <u>binary</u> representation.

Particularly, the terminology in Perrizo "n-dimensional <u>array</u>" clearly is <u>not</u> comparable

to the terminology "*n-dimensional <u>space</u>*" of the present invention (e.g., "*spatially indexed in N*

dimensions" as recited in claim 1).

Indeed, neither Perrizo nor Ridgley is concerned with n-dimensional <u>space</u>, as defined by

the present application. Instead, Perrizo and Ridgley merely disclose n-dimensional <u>arrays</u>.

Thus, claim 32 clearly is patentable over Perrizo and Ridgley, either individually or in

combination.

With respect to claim 33, which recites, *inter alia*, that the closeness relationship includes

"*a relationship of a Euclidean distance between points in an N-dimensional <u>space</u>*", Applicant

submits that claim 33 clearly is patentable over Perrizo and Ridgley, either individually or in

combination, because neither Perrizo nor Ridgley have anything to do with n-dimensional <u>space</u>.

Thus, claim 33 clearly is patentable over Perrizo and Ridgley, either individually or in

combination.

With respect to claim 34, which recites, *inter alia*, that the distance function includes "*a*

distance function in Euclidean <u>space</u>", Applicant submits that claim 33 clearly is patentable over

Perrizo and Ridgley, either individually or in combination, because neither Perrizo nor Ridgley

have anything to do with the claimed "distance function", as set forth above, or n-dimensional

<u>space</u>.

Thus, claim 34 clearly is patentable over Perrizo and Ridgley, either individually or in

combination.

Serial No. 09/893,788   13
Docket No. YOR920010316US1
YOR.291

For the foregoing reasons, Applicant submits that the alleged combination of Perrizo and

Ridgley clearly does <u>not</u> achieve or provide the functionality or advantages of the claimed

invention, as exemplarily described in the present application. Hence, the alleged combination

would <u>not</u> (and could <u>not</u>) result in the claimed combination.

Moreover, the cited portions of Perrizo and Ridgley clearly are <u>not</u> comparable to the

elements recited in the claimed invention. Thus, the alleged combination of Perrizo and Ridgley

clearly is <u>not</u> comparable to the claimed invention and would not arrive at the claimed invention.

Moreover, Applicant submits that it would <u>not</u> have been obvious to combine the

references in the manner alleged because the Examiner's rational for combining the references

makes unreasonable leaps and assumptions in order to try to show all of the features of the

claimed invention. The Examiner's assumptions are <u>not</u>, however, based on the disclosures of

the cited references, but instead, appear to be improperly based on Applicant's own invention

(i.e., impermissible hindsight based analysis).

Thus, Applicant respectfully submits, however, that it would <u>not</u> have been obvious to

combine Perrizo and Ridgley to arrive at the claimed invention. Moreover, even assuming

arguendo that it would have been obvious to combine these references in the manner alleged by

the Examiner, Applicant submits that all of the features of the claims would <u>not</u> have been

disclosed by the resulting combination of these references.

Thus, the Examiner is <u>requested to reconsider and withdraw</u> this rejection and to permit

claims 1-7, 11, 15, 16, and 23 to pass to immediate allowance.

         B.   Claims 17-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over

Perrizo in view of Ridgley, and further in view of Lipson.

Serial No. 09/893,788   14
Docket No. YOR920010316US1
YOR.291

Applicant respectfully notes that the Examiner has <u>not</u> responded to or answered the

substance of <u>each</u> of the traversal positions set forth below. As the Examiner knows, where

Applicant traverses any rejections, the Examiner should, if he repeats the rejection, take note of

Applicant's argument and answer the substance of it (see M.P.E.P. § 707.07(f)).

Thus, Applicant respectfully reiterates the traversal positions below and requests that the

Examiner properly respond to Applicant's traversal positions with respect to each of the claims

below.

Applicant respectfully reiterates that claims 17-22 are patentable over Perrizo, Ridgley,

and Lipson, either individually or in combination, at least for somewhat similar reasons as those

set forth above, as well as for the additional features recited therein.

With respect to dependent claim 17, Perrizo clearly does <u>not</u> disclose or suggest a

projection in 3 dimensions by first selecting data blocks. As mentioned above, an "array" of

dimension 3 is <u>not</u> comparable to, or equivalent to, a coordinate "*space*" of 3 dimensions. On the

other hand, Lipson does <u>not</u> disclose or suggest a "projection" (of a coordinate in higher

dimensional space) in three dimensions.

As mentioned above, Perrizo is limited to <u>binary data</u>. On the other hand, Lipson is

limited to <u>3-dimensional data</u>. However, none of the cited references describes how to project

higher dimensional coordinates into lower dimensional space.

With respect to dependent claim 18, the cited references do <u>not</u> disclose or suggest at

least "*displaying search results in a scatter-plot*", as claimed. Indeed, the cited references are

<u>completely unrelated</u> to the subject matter of claim 18. In fact, there is <u>no</u> mention of a scatter

plot display in either Perrizo, Ridgley, or Lipson.

Serial No. 09/893,788   15
Docket No. YOR920010316US1
YOR.291

With respect to dependent claim 19, a grid layout is not comparable to a scatter plot

display in N-dimensional space, as mentioned above. Thus, the cited references also are

completely unrelated to the subject matter of claim 19.

With respect to dependent claim 20, a telephone key pad or numeric keypad are limited to

navigation into a 2-dimensional grid, and thus, clearly are not suitable for navigation in 3

dimensional space.

With respect to dependent claim 21, the cited references clearly do not disclose or

suggest a position in n-dimensional space, or for that matter, the concept of a proximity list.

With respect to claim 22, a 2 dimensional grid clearly would not be comparable to a

spatial navigation in N-dimensional space.

For the foregoing reasons, Applicant respectfully reiterates that claims 17-22 clearly

would not have been obvious over Perrizo, Ridgley, and Lipson, either individually or in

combination, for somewhat similar reasons as those set forth above, as well as for the additional

features recited therein.

Thus, the Examiner is requested to reconsider and withdraw this rejection and to permit

claims 17-22 to pass to immediate allowance.

III.   FORMAL MATTERS AND CONCLUSION

The Examiner is requested to acknowledge receipt of and approve the formal drawings

filed on September 20, 2001.

In view of the foregoing, Applicant submits that claims 1-23 and 32-34, all the claims

presently pending in the application, are patentably distinct over the prior art of record and are in

Serial No. 09/893,788   16
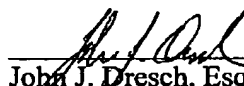Docket No. YOR920010316US1
YOR.291

condition for allowance. The Examiner is respectfully requested to pass the above application to

issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the

Examiner is requested to contact the undersigned at the local telephone number listed below to

discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any

overpayment in fees to Assignee's Deposit Account No. 50-0510.

                                        Respectfully Submitted,

Date: _November 30, 2005_

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CERTIFICATE OF TRANSMISSION

I certify that I transmitted via facsimile to (571) 273-8300 the enclosed Request for

Reconsideration under 37 C.F.R. § 1.116 to Examiner Quoc A. Tran, Group Art Unit 2176, on

November 30, 2005.

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